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ABSTRACT

This publication is part of a series of self-instructional teacher training manuals designed to assist vocational-technical educators or industrial trainers to develop and implement competency-based vocational education (CBVE) programs. The purpose stated for this manual is for the instructor to learn to construct performance and written evaluation instruments. Each manual contains the following sections: cover page that contains the task title, purpose, and information block (program and task codes, estimated time, prerequisites); terminal performance and micro-performance objectives; procedures for completing this manual; learning activities with required resources cited; information sheets; activity sheets (self-checks) with answer keys; a written examination with answer key; and a product/performance checklist. (YLB)

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COMPETENCY—BASED INDIVIDUALIZED VOCATIONAL EDUCATIONAL CONSORTIUM

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A LEARNING GUIDE

Task Construct Performance and Written Evaluation Instruments

Purpose Two types of evaluation instruments are used with competency-based vocational education. The one type is written criterion exams which are used to assess the cognitive aspects of task performance. The other type, and of prime importance, is objective performance instruments.

This learning guide will assist you in constructing both types of evaluation instruments.

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CE040578

Program	Task	Est. Time	Prereq.
PTT	004	2 Hours	001, 002 and 003

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Construct Performance and Written Evaluation Instruments

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DEPT.	PROG	TASK	TPO	MPO
	PTT	004	004	

INTRODUCTION

This publication is part of a series of self-instructional teacher training manuals designed to assist vocational-technical educators or industrial trainers to develop and implement competency-based vocational education (CBVE) programs. Each manual addresses a different aspect of CBVE. The entire set is designed to enable instructors, administrators, or industrial trainers to develop the necessary skills needed to successfully develop and implement CBVE programs in a school or industrial setting.

Each manual contains the following sections: Cover page which contains the task title, purpose, and information block; inside pages of performance objective, micro-performance objectives, learning activities, information sheets, activity sheets (self-checks), a written exam, and a product/performance checklist.

Manuals have been developed for the following tasks:

1. Identify the Characteristics of a Competency-Based Vocational Education(CBVE) Program
2. Identify and Sequence Job Tasks
3. Write Measurable Performance Objectives
4. Construct Performance and Written Evaluation Instruments
5. Write Student Learning Guides or Competency Sheets
6. Adapt or Revise a Student Learning Guide or Competency Sheet
7. Identify Teaching/Learning Strategies and Management Techniques to Implement CBVE
8. Develop a Learning Resource Center
9. Orient Students to CBVE
10. Write a Student Performance Contract
11. Use Print and Nonprint Resources
12. Monitor Student Progress and Maintain Student Records

13. Assign Grades

14. Identify Necessary Administrative Support

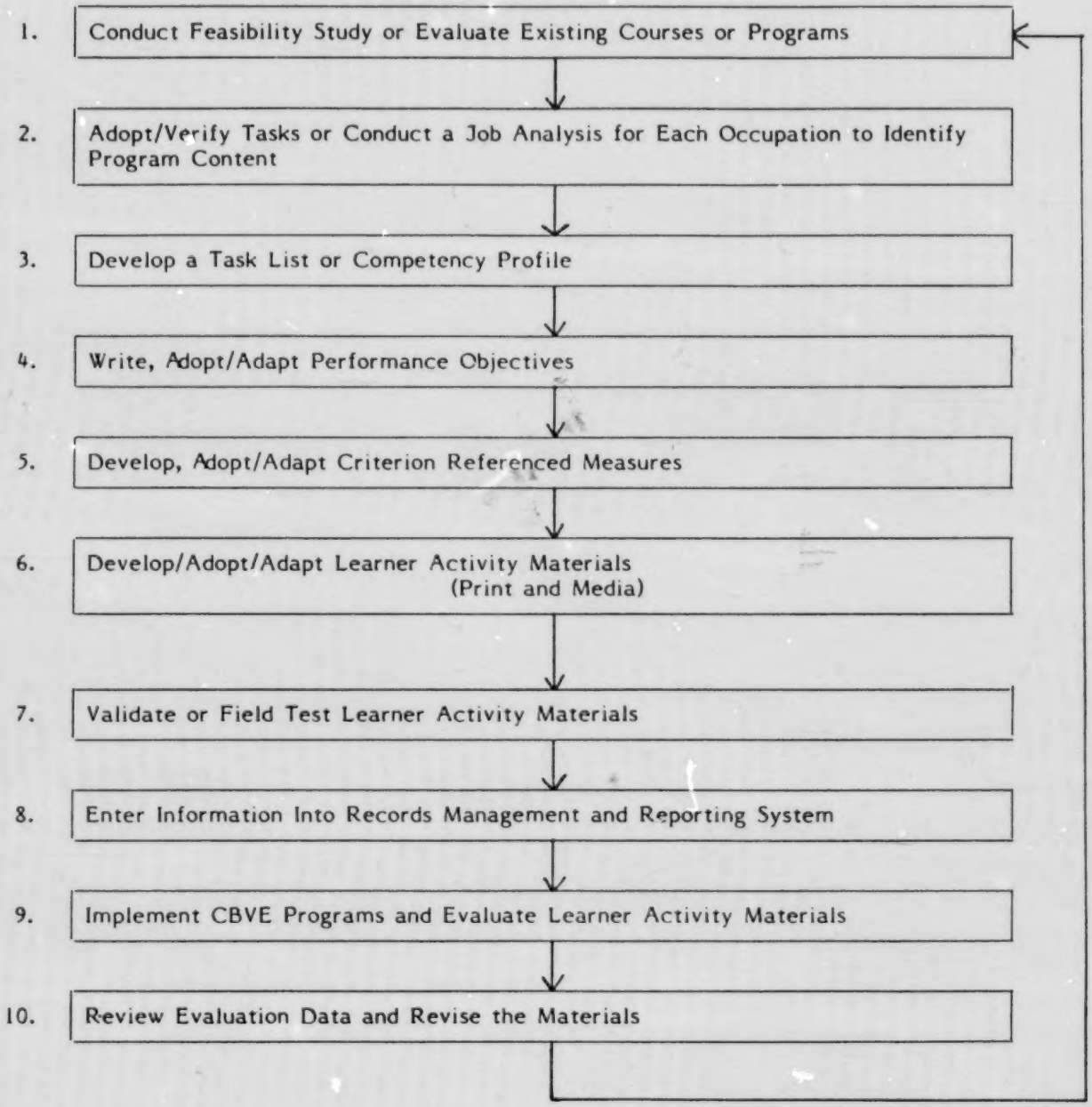
15. Prepare a Staff Development Program

Using the following CBVE systems development model, instructors, trainers, or administrators can develop and implement CBVE programs.

The following institutions deserve credit for the use of some of their materials in the development of these manuals:

- District 916 Area Vocational-Technical Institute, 3300 Century Avenue North, White Bear Lake, MN 55110
- Stephenson Area Career Center, Pearl City Road, Freeport, IL 61032
- Maryland State Department of Education, Division of Vocational Technical Education
- University of South Florida, Division of Vocational Education, Tampa, Florida

CBVE Curriculum Development Model


1. Conduct Feasibility Study or Evaluate Existing Courses or Programs
2. Adopt/Verify Tasks or Conduct a Job Analysis for Each Occupation to Identify Program Content
3. Develop a Task List or Competency Profile
4. Write, Adopt/Adapt Performance Objectives
5. Develop, Adopt/Adapt Criterion Referenced Measures
6. Develop/Adopt/Adapt Learner Activity Materials (Print and Media)
7. Validate or Field Test Learner Activity Materials
8. Enter Information Into Records Management and Reporting System
9. Implement CBVE Programs and Evaluate Learner Activity Materials
10. Review Evaluation Data and Revise the Materials

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FOREWORD

1. What is evaluation?

   A. Synonym = appraisal
   B. Determining the "goodness"
   C. Determining utility

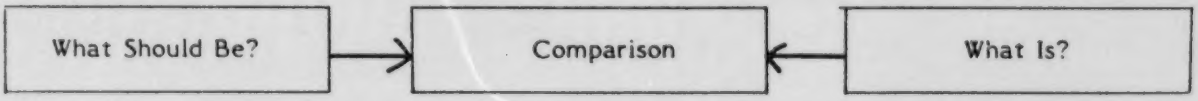
2. Football fans evaluate coaches on whether they win or lose.

3. In order to evaluate, a standard or reference is needed:

   A. To measure up to; or
   B. To compare with

   Therefore, evaluation involves a comparison of performance or product with criteria or standards (i.e., the model).

Evaluation Model



4. What is measured in vocational-technical education?

   A. Tasks learned
   B. Work habits
   C. Safety consciousness
   D. Attitude

5. How are these items measured?

   "Measuring sticks" or "devices" are used. In machine trades, micrometers can be used and the results will be the same each time. This is called measurement. Measurement is exact. The dress is 40 inches in length. The letter is error free. The car cam angle and dwell are _____ degrees.

   With testing, the same exact results are not obtained each time. The precision and definition of the standards are rather vague. In fields of exact science, the evaluator will get the exact or precise measurements. In education, objective and subjective means are used to evaluate. The role then of evaluation is to determine direction based upon present and/or past performance in light of the goals and objectives. In this manual, you will see how performance objectives guide the development and use of "objective" evaluation instruments.

OBJECTIVES OF THIS MANUAL

1. TERMINAL PERFORMANCE OBJECTIVE

GIVEN: Tasks for your occupational program,

YOU WILL: construct performance and written evaluation instruments

HOW WELL: You must pass a written exam with 100 percent correct and score 87 percent on a performance checklist and 100 percent on a written exam checklist.

2. MICRO-PERFORMANCE OBJECTIVE(S)

1. Identify the purposes of testing and the types of evaluation instruments
2. Develop performance tests
3. Construct written tests for knowledge aquisition (cognitive domain)
4. Construct written tests for the affective domain
5. Construct performance and written evaluation instruments

PROCEDURES FOR COMPLETING THIS MANUAL

1. Read the foreword
2. Read the learning steps and resources for each micro-performance objective
3. Complete the activity sheets for each micro-performance objective
4. Complete the written exam
5. Complete the performance test and review with your school's CBVE resource person

MICRO - PERFORMANCE OBJECTIVE #1

Identify the Purposes of Testing and the Types of Evaluation Instruments

LEARNING STEPS

1. Read Resource #1 to identify the purposes of testing and the types of evaluation instruments.
2. Complete Resource #2 to check your understanding of testing.
3. Go to next MPO.

RESOURCES

1. Information Sheet 004-001-001, "Purposes of Testing and Types of Evaluation Instruments", in this guide, pages 9-16.
2. Activity Sheet 004-001-002, "Testing" in this guide, pages 17-18.
3. MPO #2 in this guide, page 19.

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INFORMATION SHEET

004-001-001

Purposes of Testing and Types of Evaluation Instruments

In a competency-based vocational education program, students need to know what they have to do in order to accomplish a task and how they are going to be evaluated. The type of evaluation devices which you prepare is dependent upon the prestated criteria of your performance objectives. While written tests may be used, practical performance measures are more appropriate and should be used most frequently.

The type of evaluation device used should be of such a nature that upon completion, the instructor is ninety-five percent certain that the student could repeat the procedure in a job setting. The best way to assure this is to operate your program as closely to a job setting as possible. Job-like settings should be built into most of the programs so students can actually experience the real thing. For example, students in Automotive Mechanics should work on real customer automobiles. It is critical in designing such a program that the tail does not wag the dog. An educational environment must be maintained at all times. The main objective is to train students and not to repair all automobiles with all maladies like a garage does. Student tasks should control which type of automotive problem to accept.

With the aforementioned in mind, the evaluation devices could be:

A. Written tests to assess knowledge of the performance objective.

B. Oral tests to assess knowledge and problem solving aspects.

C. Practical skills tests to assess manipulative competence and the use of knowledges gained.

A combination of all three evaluative devices are recommended to insure that the student will be competent for a given task.

The question which can be raised is, "How does an instructor know when a student's performance meets the criteria?" The use of Criterion Referenced Tests (CRT's), or Criterion Referenced Measures (CRM's) is a very effective method.

Evaluations based upon pre-stated criteria in a performance objective are called Criterion-Referenced Measures, or Tests. A criterion-referenced measure assesses student performance. It is a test for the performance objective stated very specifically for the student which accurately measures attainment of the objective. A criterion-referenced test (CRT) or measure (CRM) is one that is constructed to yield measurements or results which are directly interpretable in terms of pre-specified performance standards. A CRT or CRM is directly related to the performance objective of the program and should indicate whether an individual has or has not mastered each of the tasks.

A CRT or CRM possesses each of the elements or characteristics specified below:

Reliability - the measure yields consistent results. If a measure is reliable, students who have learned to do a task correctly will pass and those who have not will fail.

Validity - it actually measures what it is supposed to measure. Example: A performance objective requires the student to "spray a vehicle with paint." A ten-item written test requiring the student to explain steps and precautions in applying paint is not valid because the student's ability to apply paint was not checked. In other words, a cognitive test was used to measure a psychomotor behavior.

Objectivity - the instructor's bias or personal opinion is not reflected in evaluation of the student's performance.

Comprehensiveness - all behavior in the performance objective is measured, not just a sampling.

The three functions of criterion-referenced measures are to:

1. give directions for the design of performance objectives.
2. determine the student's ability to perform.
3. evaluate the instructional procedures of the objectives.

The major advantage of using CRM's is that the student is evaluated according to predetermined job standards rather than compared with other students. In vocational education, it is

more important to know whether the student can successfully perform the job tasks than to know his or her relative ranking as compared with other students. Because a CRT assesses the ability of a student to perform on the job, it is essential that the test reflect as closely as possible the actual job environment. Therefore, a CRT usually, but not always, involves the manipulation of tools, equipment, materials, and objects utilized in work activity.

The use of CRM's enables the instructor to build both quality and flexibility into a program. Quality is achieved because a student progresses on the basis of the attainment of explicitly-stated performance standards. The instructor is assured that a minimum level of performance has been attained before the student progresses to other objectives. Program flexibility is achieved because student progress is linked to task achievement rather than exposure to a predetermined amount of instructional time. Accordingly, the time allotted to reach the specified performance levels may vary among students. Instructional methodology and student activities may also vary. This variance is necessary in order that the needs of all learners can be met.

The following are examples of criterion-referenced measures:

Example 1:

Program - Auto Mechanics Task 250
Task Title: Remove and Replace Muffler

Given a vehicle with a faulty muffler, and access to the proper tools and equipment, remove and replace the muffler following the manufacturer's recommended procedures. When replaced, the muffler should have no leaks or unwarranted noises.

Criterion-Referenced Measure: Remove and replace the muffler on the vehicle provided by the instructor. The muffler should have no leaks or unwarranted noises.

Example 2:

Program - Secretarial Task 375
Task Title: Complete Monthly Statements for Customers From Invoices

Given a group of 25 unpaid invoices and statement forms, prepare a monthly statement for each customer with 100% accuracy.

Criterion-Referenced Measure: Using the material provided by your instructor, prepare monthly statements for 25 customers with 100% accuracy.

Example 3:

Program - Nursing Assistant/Orderly Task 110
Task Title: Give Patient Back Rubs

Provided a patient in a hospital bed and the necessary supplies, give the patient a back rub. The procedure will be evaluated in accordance with a performance checklist. All items must be rated "acceptable."

Criterion-Referenced Measure: Give the patient provided a back rub. All items on the checklist must be rated "acceptable."

What is the difference between Criterion-Referenced Tests (CRT's) and Norm-Referenced Tests (NRT's)?

Norm-referenced tests are constructed to show a comparison of an individual's aptitude and achievement within a group. They provide normative data to compare school systems, to evaluate programs, and to indicate pupil achievement ranking within a grade or classroom. An NRT evaluates students according to their performance as compared to other students.

Criterion-referenced tests compare student progress with a measurable objective that specifies criteria for performance. Criterion-referenced tests offer specific and valid means of assessing individual performance and the accomplishment of specific program goals. Evaluation by a CRT provides accountability. When using a CRT, the information of interest to an instructor is not class mean and the ranking of class members, but rather the level of performance of each individual.

The following example shows the difference between scoring a CRT and scoring an NRT.

Program Mechanical Drawing

Task: Prepare one-view drawings

Task No.: 080

Performance Objective: Given: The necessary equipment, materials, and procedures

You Will: Prepare one-view drawings

How Well: You must score 10 out of 10 or 100% on a product checklist and complete the drawing in 180 minutes.

ITEMS TO BE OBSERVED	Norm-Referenced Scoring	Criterion-Referenced Scoring
1. Drawing sheet layout correct	10	✓
2. Template problem centered in space	10	✓
3. Template dimensions accurate	10	✓
4. Outlines uniformly thick and dark	10	✓
5. Carburetor gasket problem centered in space	10	✓
6. Carburetor gasket dimensions accurate	0	–
7. Carburetor gasket circles and arcs tangent	10	✓
8. Centerlines added to carburetor gasket	10	✓
9. Drawings have neat overall appearance	10	✓
10. Title blocks neatly lettered	10	✓
Score	90%	0%
Grade	A- or B+	None Must redo the task (Not Competent)

From the example, you should note that in norm-referenced testing, a student may miss an important step and not meet the performance objective and yet still receive a 90% score which is a grade of A- or B+. In norm-referenced testing, students can average their way through the curriculum. They may or may not be competent. With criterion-referenced testing, if the student does not meet the performance objective, he or she is judged not yet competent and must continue practicing it until competence is achieved.

Why Give or Use Criterion-Referenced Measures?

1. Training system validation
2. Training system quality control
3. Instructional purposes
   - A. Diagnosis - to diagnose learning difficulties, strengths, and weaknesses
   - B. Assessment - to assess knowledge and skill gained and behavioral change
   - C. Evaluation - to provide feedback
   - D. Motivation - to motivate
   - E. Placement - to counsel students
   - F. Prediction - to predict future successes
4. Administrative uses
   - A. To pretest students
   - B. To determine readiness for advanced training
   - C. To grade students
   - D. To eliminate students from a program
   - E. To establish readiness for advanced training
   - F. To recycle trainees
   - G. To determine trainee assignments
   - H. To inform line managers and supervisors about the accomplishments of their subordinates

5. Experimental uses

   A. To pretest system components

   B. To perform comparative cost analysis

   C. To determine system prerequisites

What Types of Evaluation Instruments are Used to Assess Student Performance?

There are two types of evaluation instruments used to assess student performance and to provide feedback to the student and instructor. These are informal instruments and formal instruments.

Informal Evaluation Instruments

- Activity Sheets
- Study Questions
- Oral Quizzes

Formal Evaluation Instruments

- Written Criterion Exams
- Product Checklists
- Performance Checklists
- Product/Performance Checklists

The informal instruments are used to give feedback to the student regarding the cognitive aspects of a task. Each time the student is asked to read, view a film, or attend a presentation, an informal evaluation instrument is used to assist them in organizing their thoughts and to check their understanding of the materials.

The formal instruments are given to the student to determine whether or not the task has been mastered. The written exams are normally objective tests which can be easily hand or machine scored. The purpose of the written exam is to determine whether or not the student understands the knowledge aspects of a task. The checklists are used to evaluate student performance of a

task. Each checklist contains performance standards and criteria which is used by the evaluator to assess task mastery.

ACTIVITY SHEET

004-001-002

Testing

Directions: Please complete the following in your own words.

1. List the two types of performance evaluation instruments.

   A. _____

   B. _____

2. Describe what is meant by a criterion-referenced measure.

   _____

   _____

   _____

3. What is the difference between criterion-referenced tests and norm-referenced tests?

   _____

   _____

   _____

   _____

4. List three instructional purposes for using CRM's.

   A. _____

   B. _____

   C. _____

5. List three informal evaluation instruments.

   A. _____

   B. _____

   C. _____

6. List three formal evaluation instruments.

   A. _____

   B. _____

   C. _____

NOTE: Check your answers with the answer key on the next page.

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	P.T.T.	004	004	001

ANSWER KEY

For Activity Sheet 004-001-002

Testing

Directions: Please check your answers with those given below.

1. List the two types of performance evaluation instruments.

   A. Written tests

   B. Performance checklists or practical skills tests

2. Describe what is meant by a criterion-referenced measure.

   Used to assess student performance. The measure relates to the criteria statement of the performance objective.

3. What is the difference between criterion-referenced tests and norm-referenced tests?

   Norm-referenced tests compare an individual's achievement to other student's achievement within a group. CRT's are used to measure a student's accomplishment against pre-set standards and not other students.

4. List three instructional purposes for using CRM's. (You should have selected 3 of these 6 answers)

   Diagnosis Motivation

   Assessment Placement

   Evaluation Prediction

5. List three informal evaluation instruments.

   A. Activity sheets

   B. Study questions

   C. Oral quizzes

6. List three formal evaluation instruments.

   A. Written criterion exams

   B. Product checklists

   C. Performance checklists

NOTE: All of your answers should agree with the answers in this Answer Key. If you missed any, go back and review Information Sheet 004-001-001.

DEPT.	PROG	TASK	TPO	MPO
	P.T.T.	004	004	001

MICRO - PERFORMANCE OBJECTIVE #2

Develop Performance Tests

LEARNING STEPS

1. Read Resource #1 to identify how to develop performance tests.
2. Complete Resource #2 to check your understanding of how to develop performmance tests.
3. Go to next MPO.

RESOURCES

1. Information Sheet 004-002-001, "How to Develop and Use Performance Tests," in this guide, pages 20-32.
2. Activity Sheet 004-002-002, "How to Develop and Use Performance Tests," in this guide, pages 33-40.
3. MPO #3 in this guide, page 41.

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INFORMATION SHEET

004-002-001

How to Develop and Use Performance Tests

Performance tests are used to (1) evaluate a student's performance or (2) to evaluate a student's product. Each performance test contains industry standards and criteria against which student performance or products will be evaluated by the instructor.

Example performance tasks where the process would be observed and evaluated by the instructor are: give a back rub or make an occupied bed. Example performance standards are: washed hands, identified patient, and explained procedure.

Example product tasks are: make a butt weld, bake a layer cake, or type a business letter. Example product standards are: can the weld pass the guided bend test? Does the cake taste good? Is the letter error free? With product type tasks, the instructor does not need to observe student performance.

The form used by the instructor to evaluate the product or the performance is a checklist. The following steps should be followed when designing checklists.

Steps to Follow When Designing Product/Performance Checklists

Step 1. Review the terminal performance objective (TPO) for the student learning guide or competency sheet.

The TPO should indicate the following: Condition, task statement, and the criteria. An example is:

(Condition)	Given:	A recipe, baking supplies, and equipment
(Task)	You Will:	bake a layer cake.
(Criteria)	How Well:	You must score __ out of ___ or __ percent on a written exam and __ out of ___ or ___ percent on a _____ checklist.

Notice that the criteria or standards are not filled in. It is impossible to complete the TPO until the written test and checklist are completed.

Step 2. Determine whether you need a product or performance checklist - or a combination of both.

A. A product checklist is used to evaluate a tangible student product, i.e., the end result.

B. A performance checklist is concerned with the process or procedures, i.e., how the student performs the task.

C. A product/performance checklist is concerned with both the process and the product.

In the example of bake a layer cake, the end product is more important than how the student baked the cake. Therefore, a product checklist would be used. If the student were enrolled in health occupations and making an occupied bed, both the process and product would be important. It would be possible for the student to make process type errors and still end up with a nice looking product, the occupied bed. Therefore, the evaluator must watch the student make the occupied bed to make sure that all procedural steps were followed.

Step 3. List items to be observed or measured in a logical order.

A. Product checklist

1. List desirable characteristics of the completed product
2. Each item should be independent of other items
3. Each item should begin with a present tense verb
4. Include only the critical items which can discriminate between competence and non-competence.
5. Use beginning job-entry employee standards
6. Each item should be stated simply and clearly so that students, parents, employers, administrators, and the evaluator understands what is expected.

7. Each item should be specific such as ± 1/16 inch, contains no errors, or replaced all screws.

B. Performance checklist

1. List all critical procedural steps in correct sequential order as identified in task analysis or task detailing activity.

2. Each step should be independent of other steps.

3. Each step should begin with a past-tense verb.

4. Each item should be readily observable and measurable.

5. Use words which can be objectively rated and avoid words which require subjective evaluations.

6. Each step should include only one performance.

7. Each item should be stated simply and clearly.

C. Product/Performance checklist

List both product and performance standards on the checklist.

Step 4. Determine which items are critical.

A critical item is one that cannot be missed by the student when demonstrating mastery of the performance.

Step 5. Specify the criteria for each item or step.

The criteria must be included with each item or step or else another column may be added to the checklist to include the specific criteria.

Step 6. Determine which type of rating system will be used to rate each item or step.

The rating column should contain "yes/no" or "acceptable/unacceptable" headings. Avoid words such as proper/improper or correct/incorrect.

Step 7. Determine if evaluator checkpoints are needed.

Evaluator checkpoints may be added to a checklist to allow the evaluator to inspect a product or performance before the student progresses to other steps or items. For example, on installing a two-way switch, the evaluator will want to check the terminals before the student closes the box with the wall plate. The evaluator will want to check the depth and width of the hole before the student inserts the bush and replaces the soil. Checkpoints may also be added for health or safety reasons.

Step 8. Assign point values to each item.

Point values are used to differentiate the relationship between items - if any difference does exist. Generally, a range of one to three points is used for most items. If no difference does exist, use one point for each item.

Step 9. Establish the score needed to demonstrate mastery.

The score needed for mastery will vary from task to task. If nine out of ten items are critical, the minimum mastery score will be 90 percent. The score and standards must reflect job-entry expectations.

Step 10. Write directions to the student and evaluator.

Directions are needed to inform the student and evaluator of the task to be completed, any time requirements, conditions for performance, etc.

Step 11. Entitle your checklist and provide identification information.

The checklist should be given the task name and number for identification purposes.

Step 12. Evaluate the checklist.

After completing the checklist, it should be evaluated by another instructor in the same area or else by industry representatives to make sure it contains the necessary procedures or items.

Step 13. Revise the checklist.

The final step is to revise the checklist after you identify problems with its use or from your evaluation from Step 12.

Checklists, when designed correctly, share some common characteristics.

1. <u>The checklists are objective.</u>

The instrument is designed to discourage instructor subjectivity. The instructor must evaluate <u>each</u> student's performance according to the <u>same</u> criteria - those specified on the checklist. This means that there is a better chance that the instructor will be consistent and fair with the evaluations of the students.

2. <u>The checklists are specific.</u>

By looking at the items stated on the checklist, the student and other people within the occupation should have a clear idea of what the desired outcome is. This specificity helps to assure that identical performances would be evaluated in the same way by different evaluators. Checklists should be specific enough so that any one performance would be evaluated the same by each person using the instrument.

3. The checklists are practical.

If the checklist is not practical, instructors will not use it. Checklists must be specific enough to insure fair evaluation but brief enough so they remain practical.

Items That Should be Included on a Checklist Are:

A. Program title

B. Task title

C. Task number

D. Student's name

E. Evaluation site

F. Performance attempt

G. Date of attempt

H. Name of evaluator and title

I. Performance objective

J. Directions

K. The list of items or steps that must be observed or measured

L. Rating columns for "yes/no, accomplished/not accomplished, acceptable/unacceptable" An N/A column, or comments column, may be needed for a situation where an item may not apply or where notes can be recorded during evaluation.

M. A section for comments about the work

N. If students are to use the checklist, leave columns or a section for them to evaluate their work.

O. If frequency or time taken to perform the task is important, a column needs to be provided for this information.

P. Total points possible and those needed for mastery should also be identified along with critical items.

Sample checklists - The following are sample checklists.

Example Performance Checklist

Task 110

Task Title: Give Patient Back Rub

ACTIVITY	RATING	
	Acceptable	Unacceptable
1. Washed hands.		
2. Identified patient and explained procedure.		
3. Provided for privacy and adjusted patient's position.		
4. Used good body mechanics.		

Example Performance Checklist

Task 175

Task Title: Demonstrate Handwashing Techniques

ACTIVITY	RATING	
	Acceptable	Unacceptable
1. Assembled equipment.		
2. Turned on faucet with a paper towel and adjusted water temperature.		
3. Wet hands and wrists completely under running water-fingertips were pointed downward.		
4. Applied soap generously.		

Example Product/Performance Checklist

Task 675 Task Title: Plant Bare Root Stock

ACTIVITY	RATING	
	Acceptable	Unacceptable
1. Prepared hole according to length of roots and previous depth of planting in nursery.		
2. Placed tree in hole with the roots fully extended.		
3. Filled hole around the tree uniformly.		
4. Tamped soil down after 2/3 filling of the hole.		
5. Watered tree moderately.		

Example Product/Performance Checklist

Task 601 Task Title: Demonstrate Charging System Fundamentals
Specialty Area: Alternator Rebuilding

ACTIVITY	RATING	
	Acceptable	Unacceptable
1. Disassembled the unit completely.		
2. Tested the rotor for open using an ohmmeter.		
3. Used ohmmeter to test each stator.		
4. Separated diode heat sink from the diode end frame and disconnected the diodes...		

EXAMPLE CHECKLIST

TASK: DISASSEMBLE AND ASSEMBLE PARTS

Task No. 210

ACTIVITY: DISASSEMBLY	RATING *	
	ACCEPTABLE	UNACCEPTABLE
1. Turned off electrical power		
2. Determined section(s) to be disassembled		
3. Removed fasteners that hold piece in place		
4. Disassembled in correct sequence		
ACTIVITY: ASSEMBLE		
1. Assembled all components in correct sequence		
2. Replaced part according to specifications		
3. Replaced all fasteners		
4. Made necessary adjustments		
5. Lubricated to specifications		
6. Tested equipment and adjusted if necessary		

*All activities should be performed acceptably.

PROGRAM: Secretarial

TASK: Type a letter in full block style

TASK # 215

PERFORMANCE/PRODUCT CHECKLIST

STUDENT'S NAME _____ **EVALUATION SITE** _____

EVALUATOR'S NAME _____ **PERFORMANCE ATTEMPT** 1 2 3 4

DATE OF ATTEMPT ____ ____ ____ ____

TERMINAL PERFORMANCE OBJECTIVE:

GIVEN: Unarranged information

YOU WILL: Type a letter in full block style

DIRECTIONS TO THE STUDENT:

BEFORE ATTEMPTING THIS TASK FOR MASTERY, CAREFULLY REVIEW THIS CHECKLIST. YOU WILL BE EVALUATED ON THE BASIS OF THIS CHECKLIST. WHEN YOU FEEL YOU ARE READY FOR EVALUATION CONTACT YOUR INSTRUCTOR. YOU MUST COMPLETE YOUR PERFORMANCE WITHIN _____ MINUTES AND MUST SCORE AT LEAST 14 OUT OF 16 POINTS OR 88 % FOR MASTERY. CRITICAL ITEMS ARE MARKED WITH AN ASTERISK (*). THESE ITEMS MUST BE SATISFACTORILY COMPLETED.

DIRECTIONS TO THE EVALUATOR:

THE STUDENT WILL CONTACT YOU WHEN READY FOR EVALUATION. THE STUDENT MUST COMPLETE THE PERFORMANCE WITHIN _____ MINUTES AND MUST SCORE 14 OUT OF 16 POINTS OR 88 % AND ALL ITEMS MARKED WITH AN ASTERISK (*) MUST BE SATISFACTORILY COMPLETED.

DEPT.	PROG	TASK	TPO	MPO
	PTT	004	004	002

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	PRODUCT CHECKLIST		
	Task 021		
	Type a Letter in Full Block Style		
*	1. Singlespaced		
	2. Centered letter horizontally		
	3. Centered letter vertically		
*	4. Began all lines at left margin		
	5. Typed date on line 13-15		
*	6. Typed attention line before salutation		
	7. Typed Mr. in attention line		
*	8. Typed a plural salutation		
*	9. Doublespaced between paragraphs		
*	10. Typed an appropriate complimentary closing		
*	11. Doublespaced before company name		
*	12. Typed company name in all capitals		
*	13. Left three blank lines for handwritten signature		
	14. Typed reference initials		
*	15. Typed carbon copy notation		
*	16. Typed a mailable letter		
	TOTAL POINTS EARNED =		

POINTS NEEDED FOR MASTERY = 14
TOTAL POINTS POSSIBLE = 16

DEPT.	PROG	TASK	TPO	MPO
	PTT	004	004	002

CRITICAL ITEMS	CLOTHING TASK 010 ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
*	1. Was the throat plate removed and brushed clean?		
*	2. Was the bobbin case brushed clean?		
*	3. Was the shuttle brushed clean?		
*	4. Was the light bulb wiped off?		
*	5. Was the upper tension adjusted correctly?		
*	6. Was a drop of oil placed in oil holes?		
*	7. Has the needle been checked for bluntness?		
*	8. Does the bobbin wind correctly?		
*	9 Is the needle inserted correctly?		
*	10. Have all the dials been set to a regular straight stitch?		
*	Criticle items -- must be marked "yes" or do again.		
	TOTAL POINTS EARNED =		

POINTS NEEDED FOR MASTERY = 10
TOTAL POINTS POSSIBLE = 10

DEPT.	PROG	TASK	TPO	MPO
	P.T.T.	004	004	002

EXAMPLE

PRODUCT CHECKLIST

TASK 080

Directions: You are to prepare drawings of the following problems located in your textbook, Mechanical Drawing:

1. On a "B" size sheet with standard border and title block, you are to prepare a one-view layout of the Template for the Letter E problem 3-63 on p. 67. The object is to be centered in the space. Make all final lines dark. Include no dimensions.

2. On a "B" size sheet with standard border and title block, you are to prepare a one-view layout of the Carburetor Gasket problem 3-85 on p. 70. The object is to be centered in the space. Make all final lines dark. Include no dimensions.

CRITICAL ITEMS		ITEMS TO BE OBSERVED	YES	NO
*	1.	Is the drawing sheet layout correct?	2	0
*	2.	Is the template problem centered in space?	3	0
*	3.	Are the template dimensions accurate?	4	0
*	4.	Are the outlines uniformly thick and dark?	4	0
*	5.	Is the carburetor gasket problem centered in space?	3	0
*	6.	Are the carburetor gasket dimensions accurate?	4	0
*	7.	Are the carburetor gasket circles and arcs tangent?	4	0
*	8.	Were the centerlines added to the carburetor gasket?	3	0
*	9.	Do the drawings have a neat overall appearance?	4	0
*	10.	Are the title blocks neatly lettered?	4	0

Total points _____

POINTS REQUIRED FOR MASTERY 35

TOTAL POINTS POSSIBLE 35

DEPT.	PROG	TASK	TPO	MPO
	P.T.T.	004	004	002

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	PRODUCT CHECKLIST		
	Task 110		
	Replace a Three-Way Switch		
*	1. Is electricity off?		
*	2. Is proper safety equipment worn?		
*	3. Are the tools being used sized to the job?		
*	4. Are wires identified properly?		
*	* 5. Is bare copper wire under head of terminals? ____ Instructor checkpoint		
*	* 6. Is wire wrapped around terminals in right direction? ____ Instructor checkpoint		
*	* 7. Are terminals tight? ____ Instructor checkpoint		
*	8. Is switch level and straight in electric box?		
*	9. Is switch plate straight and secure?		
*	10. Does switch/light work?		
	* Have instructor check work after this step.		
	TOTAL POINTS EARNED =		

POINTS NEEDED FOR MASTERY = 10
TOTAL POINTS POSSIBLE = 10

DEPT.	PROG	TASK	TPO	MPO
	PTT	004	004	002

ACTIVITY SHEET

004-002-002

How to Develop and Use Performance Tests

Directions: Please complete the following:

1. What are performance evaluation instruments?

_____

_____

_____

2. Which of these applies to performance evaluation instruments?

☐ used to determine whether or not the student has mastered "doing" aspects of task.

☐ used to determine whether or not student understands both "doing" and "knowing" aspects of the task.

3. A correctly designed checklist has three characteristics. What are they?

_____

_____

_____

4. Is this statement true or false? A checklist should be very specific even if that makes it impractical.

_____

5. Put the following steps involved in designing a performance evaluation instrument in sequential order by placing an "A" by the first step, "B" by the second step, etc.

____ List the items to be observed

____ Entitle your checklist

____ Establish score needed for mastery

____ Assign point values

____ Review the terminal performance objective

____ Write directions

____ Determine if checkpoints are needed

____ Evaluate the checklist

____ Determine the type of rating system to use

____ Determine critical items

____ Determine appropriate type of instrument

____ Specify the criteria for each item

6. Which of these objectives would be more specific?

____ Terminal performance objective

____ Objective for checklist

7. Write an objective for a checklist evaluating a task that has this TPO:

Given supplies and materials, construct a child's toy which will meet 90 percent of the criteria stated on the product checklist.

_____

_____

_____

_____

Activity Sheet 004-002-002 (Cont'd.)

8. By each phrase, indicate which type of checklist - performance (P), product (Pr), or performance/product (P/P) is being described. (Some phrases may apply to more than one type of checklist.)

   A. _____used to evaluate this task: Construct a collar

   B. _____used when specific steps or procedures have been clearly taught or identified

   C. _____used when evidence required to evaluate performance can be found totally in end product

   D. _____used to evaluate this task: Interview a salesperson

   E. _____used when process and product must be observed

   F. _____used to evaluate this task: Manipulate dental cements

9. How can you determine the items to include on a performance checklist?

   _____

   _____

   _____

   _____

10. Checklists should be _____ specific than the resources which teach the task.
    (more) (less)

11. Is this statement true or false?

    If a basic task has already been evaluated, you need not re-evaluate it as part of a complex task. ____

12. How many performances should be described in one item on a checklist?

    _____

13. List three common characteristics of checklists:

    _____

    _____

    _____

    _____

14. What type of item should be designated as a critical item?

_____

_____

_____

15. Which is of greater importance - the size of the point value or the relationship between point values?

_____

16. Indicate which of these should be included with the "directions to the student" by placing a check on the appropriate blanks.

A. _____ general instructions for performance

B. _____ specific expectations of performance

C. _____ terminal performance objective

D. _____ score needed for mastery

E. _____ time restrictions

F. _____ directions for administering test

17. Why is it important to include directions to the evaluator?

_____

_____

_____

18. What types of indentification information should be included on the checklist?

_____

_____

_____

19. Identify one way to evaluate a checklist.

_____

20. The TPO for one of your tasks specifies that the student construct four types of collars. During the performance evaluation you will judge only type of collar. The specific type is identified on the checklist. Should the checklist be included in the guide? Why or why not?

_____

_____

NOTE: Now check your answers with the self-check answer key on the following pages.

ANSWER KEY

For Activity Sheet 004-002-002

How to Develop and Use Performance Tests

1. Performance evaluation instruments are tools which are used in evaluating the degree of competence with which a task is performed, (Remember, the answer should be stated in <u>your</u> words).

2. Which of these applies to performance evaluation instruments?

   ☐ used to determine whether or not the student has mastered "doing" aspects of task

   ☐ used to determine whether or not student understands both "doing" and "knowing" aspects of the task.

3. A correctly designed checklist should be

   objective

   specific

   practical

4. The statement is <u>false</u>. Checklists should be as specific as possible <u>without</u> losing their practicality.

Answer Key for Activity Sheet 004-002-002 (Cont'd.)

5. Put the following steps involved in designing a performance evaluation instrument in sequential order by placing an "A" by the first step, "B" by the second step, etc.

C List the items to be observed

K Entitle your checklist

H Establish score needed for mastery

I Assign point values

A Review the terminal performance objective

J Write directions

G Determine if checkpoints are needed

L Evaluate the checklist

F Determine the type of rating system to use

D Determine critical items

B Determine appropriate type of instrument

E Specify the criteria for each item

6. Which of these objectives would be more specific?

___ Terminal performance objective

X Objective for checklist

7. Write an objective for a checklist evaluating a task that has this TPO:

Given supplies and materials, construct a child's toy which will meet 90 percent of the criteria stated on the product checklist.

Given string, spools, scissors, glue and marking pens, construct a toy appropriate for a three-year old child which will meet 90 percent of the criteria on this checklist.

DEPT.	PROG	TASK	TPO	MPO
	PTT	004	004	002

Answer Key for Activity Sheet 004-002-002 (Cont'd.)

8. By each phrase, indicate which type of checklist - performance (P), product (Pr), or performance/product (P/P) is being described. (Some phrases may apply to more than one type of checklist.)

A. or Pr / P/P used to evaluate this task: Construct a collar

B. P used when specific steps or procedures have been clearly taught or identified

C. Pr used when evidence required to evaluate performance can be found totally in end product

D. P used to evaluate this task: Interview a salesperson

E. P/P used when process and product must be observed

F. or Pr / P/P used to evaluate this task: Prepare dental cements

9. How can you determine the items to include on a performance checklist?

studying task details

reviewing procedure sheets

walking through the procedure and identifying the steps

10. Checklists should be (more) / X (less) specific than the resources which teach the task.

11. Is this statement true or false? The statement is true.

If a basic task has already been evaluated, you need not re-evaluate it as part of a complex task. T

12. How many performances should be described in one item on a checklist?

Only one performance should be described in one item on a checklist.

13. List three common characteristics of checklists:

Objective

Specific, and

Practical

14. **What type of item should be designated as a critical item?**

Those items which are extremely important in the performance of a task should be designated as critical items. Vital characteristics, crucial procedural steps or safety precautions should be marked as critical.

15. **Which is of greater importance - the size of the point value or the relationship between point values?**

The relationship between point values is more important than the size of the point value.

16. **Indicate which of these should be included with the "directions to the student" by placing a check on the appropriate blanks.**

A. ✓ **general instructions for performance**

B. ✓ **specific expectations of performance**

C. _____ **terminal performance objective**

D. ✓ **score needed for mastery**

E. ✓ **time restrictions**

F. _____ **directions for administering test**

17. **Why is it important to include directions to the evaluator?**

Directions to the evaluator must be included to assure that the test will be administered in the same manner for each student.

18. **What types of indentification information should be included on the checklist?**

Student's name, evaluator's name, and the date of the evaluation.

You may also want to provide for: the evaluation site and the performance attempt.

19. **Identify one way to evaluate a checklist.**

Use the checklist to evaluate the procedure/product performed by a student or another instructor.

20. **The TPO for one of your tasks specifies that the student construct four types of collars. During the performance evaluation you will judge only one type of collar. The specific type is identified on the checklist. Should the checklist be included in the guide? Why or why not?**

The checklist should not be included because the student must not know until the performance evaluation which type of collar he/she will be required to construct.

NOTE: All your answers should agree with the answers in this key. If you missed any, go back and review information sheet 004-002-001.

DEPT.	PROG	TASK	TPO	MPO
	P.T.T.	004	004	002

MICRO - PERFORMANCE OBJECTIVE #3

Construct Written Tests for Knowledge Acquisition (Cognitive Domain)

LEARNING STEPS

1. Read Resource #1 to identify how to develop written tests.
2. Complete Resource #2 to check your understanding of developing written tests.
3. Go on to the next MPO.

RESOURCES

1. Information sheet #004-003-001 "Developing Written Tests," in this guide, pages 42-54.
2. Activity Sheet #004-003-002, "Developing Written Tests," in this guide, pages 55-56.
3. MPO #4 this learning guide, page 57.

DEPT.	PROG	TASK	TPO	MPO
	P.T.T.	004	004	003

INFORMATION SHEET

004-003-001

Developing Written Tests

Written or oral tests are used to determine if the student has gained sufficient knowledge to perform a task. The emphasis with CBVE is performance and not written tests. Not all tasks may require written tests. For some programs, very few written tests may be used while others may use almost one for each task. Written tests mainly evaluate theory, rules, facts, data, and related information necessary to perform a task.

Knowledge tests contain items that can be classified into two basic categories: recognition items and constructed-response items. Recognition items require a student to respond to a question by selecting a correct answer or by determining whether the statement is correct or incorrect. Multiple choice, matching, and true-false questions are all recognition test items. Constructed-response items require the student to construct a response to a question. Examples of this type of test item are completion items, short answer, definitions, and identification items.

To determine which type of test item to use, examine the performance objective for the task and match the test item with the objective. For example, if the objective states that the student will define certain items, then short answer type questions would be most appropriate.

The following table contains the advantages and limitations of written test items.

ADVANTAGES AND LIMITATIONS OF WRITTEN TEST ITEMS

Type of Test Item	Advantages	Limitations
Multiple Choice	1. Low-guessing error 2. It is objective which eliminates subjective scoring. 3. It can be used to measure recall of knowledge, application of principles, or problem solving. 4. Can be easily adapted to machine or micro-computer testing, scoring and analysis.	1. It is difficult to write good test items. 2. It is sometimes hard to write multiple options. 3. It requires longer student response time than true-false items.
Matching	1. Very compact test. Can test large amount of factual information in relatively short time. 2. Easy to construct the test items. 3. Eliminates subjective scoring. 4. It is useful in assessing student's ability to match words with definitions or concepts with words.	1. It is restricted to the measurement of factual information based on memorization. 2. Tends to have many irrelevant clues.

Type of Test Item	Advantages	Limitations
True-False	1. Eliminates subjective scoring. 2. Allows the instructor to ask questions about a large content area in a short amount of student time.	1. Encourages student guessing. 2. It is often misused to test unimportant or highly specific information. 3. It is fairly limited to recall of information. 4. It is difficult to construct good, non-ambiguous items.
Short Answer	1. Is relatively easy to construct. 2. Can measure more types of complex achievement. 3. Requires the student to organize an original response. 4. Reduces the possibility of the student guessing the correct answer.	1. Takes more time to score. 2. More time is required for each student response. 3. It is difficult to score objectively. 4. Non-writers have trouble answering the questions.
Completion	1. Reduces the chance of the student guessing the correct response. 2. Is relatively easy to construct.	1. May not be as objective to score as multiple-choice, true-false, or matching. 2. Is limited to recall of information rather than application of principles in new situations.

Guidelines for Developing Test Items

Multiple Choice:

There are two parts to a multiple choice test item, the stem which can be a statement or question and the roots or choices.

1. All test choices should be reasonable, practical, and appealing to the student who does not know the correct answer.

2. If the student is required to select the best answer, be sure that there is only one answer that is clearly the best.

3. Avoid the use of negative expressions both in the stem and in the choices.

4. Write the test item so that most of the words are in the stem, not in the choices.

5. The length of the test choices should not relate to the correctness of the option (the correct option should not be noticeably shorter or longer than other options).

6. The number of choices should be varied from three to five with four being ideal.

7. Make all of the test options grammatically consistent. If the correct option is different, it will stand out.

8. Order the options within a test item in some logical sequence (i.e., alphabetical,or numerical such as 1, 3, 5, 7).

9. Should be written using a vocabulary which matches the student's reading level.

10. The stem can be:

    A. An incomplete sentence
    B. A phrase
    C. A question

11. The stem must be clear and concise and represent a complete thought.

12. Use capital letters to identify your choices and list each on a separate line.

    A.
    B.
    C.
    D.

13. Randomize the correct answers throughout the test.

14. Punctuate items in the same manner you would punctuate a sentence.

15. The roots or choices may be a phrase which completes the incomplete sentence in the stem or it may be a single word or number or it may be a sentence.

16. Illustrations are acceptable.

17. The test items must be directly related to the TPO's and the sub-objectives, if used.

18. Include at least two test items per sub-objective and ten for the entire test.

Matching

1. The list of premises and responses can be equal or unequal in length.

2. Use only homogeneous material in a single matching exercise. Avoid mixing the content within a list.

3. Include an unequal number of responses and premises. Direct the student that responses may be used once, more than once, or not at all.

4. Place the shorter responses on the right hand side.

5. Place all the items for a matching exercise on the same page.

6. Keep the list of premises and responses fairly brief (less then 10).

7. Indicate very clearly in the directions how the matching is to be done.

Short Answer

1. Identify exactly what and how you want the student to respond. Do not ask broad, ambiguous questions.

True - False

1. Write items that are true or false without additional qualifiers.

2. Do not use true-false items where the item could be considered true (or false) under certain circumstances, unless the circumstances are identified in the statement.

3. Keep true-false statements short and confined to one idea.

4. Make sure that there is no pattern to your answers. Vary the amount and order of the true and false statements.

5. Avoid the use of the following words in false statements as they may give the answer away to the student who does not know the correct response: always, only, never, all, every, no and none.

6. Avoid the use of the following words in true statements as they may give the answer away to the student who does not know the correct response: generally, usually, sometimes, customarily, often, may, could, and frequently.

Completion

1. Design the question or statement so that there is only one correct answer.

2. Take the statements or sentences directly from the sources.

3. Do not break up a sentence by removing words and substituting blanks to the point where the meaning of the sentence is lost.

4. Put the blank at the end rather than the beginning of a sentence.

5. Leave enough room for the student to write in the correct response.

6. Do not include unnecessary hints, such as the beginning letter of the missing word(s).

7. When working problems, always inform the student how the answer is to be expressed such as inches, pounds, centimeters.

Relationship Between Items and Objectives

As stated earlier, test items should be directly related to the objectives of the task. In order for this relationship to exist, items must be designed which require the student to demonstrate the desired behavior as stated in the objective.

Take a look at this micro-performance objective:

Identify the equipment and supplies necessary to install a zipper.

In order to accurately assess this MPO, the test item should be as follows:

Which of these is necessary to install a zipper?

A. blindhemmer

B. serger

C. chain stitcher

*D. interlock machine

This item requires that the student identify the equipment used when installing a zipper. Although it is designed at the knowledge level, it is still the most appropriate type of item to assess this particular objective. It would be unfair to design an item which asked about the procedure to install zippers as measurement of this particular objective.

The following is a sample written exam containing many example test items.

EXAMPLE WRITTEN EXAM

A Test for Students of Vocational Agriculture on Corn Planting

Agdex .30/40

Name _____ School _____ Grade _____

General Instructions: This test includes 50 items of various types regarding the above topic. Directions for each section of the test are included at the start of the section.

Section I. True and False

Answer the following questions true or false. Place the symbol (+) in front of the true statements, and the symbol (0) in front of the false statements.

0 1. The best corn planting date is more dependent upon the variety of hybrid than on soil temperature.

0 2. The earliest recommended corn planting date is for early hybrids.

\+ 3. Lengthening the growing season is a more important reason for planting early than missing a brood of corn borers.

0 4. Corn grows best in the cool weather of early spring.

\+ 5. Certified corn uses the letters M,K,W,C,L to denote different maturing hybrids.

0 6. The deeper corn is planted the better - as long as it comes up.

0 7. Deeper planted corn has deeper roots.

\+ 8. Corn shoud be planted deeper in sandy soils to assure more moisture.

0 9. According to research data 6 MPH is the best planter speed.

\+ 10. Missing stalks for three or four feet of row may be caused by too fast a planter speed.

\+ 11. The rate of seed drop should be checked at planting speed before field work is started.

\+ 12. In general, recently designed planters can be operated successfully at higher rates of speed than older models.

\+ 13. The rate of travel when planting affects the stand.

\+ 14. When fertilizer is placed in contact with sprouting corn, the root tissues tend to be dehydrated.

_+_ 15. Phosphorus fertilizer will not burn plant or root tissue.

_+_ 16. 30,000 plants per acre is about the best planting rate provided moisture and fertility levels are satisfactory.

_+_ 17. One half pound ear size is a good indicator of correct population for a given fertility of soil and a given season.

_+_ 18. A plant population of about 20 to 22,000 is usually more desirable in a dry growing season than a population of 25 to 30,000.

_+_ 19. One of the disadvantages of corn plant populations of over 18,000 plants per acre is that losses are greater in harvesting.

Section II. Multiple Choice

Select the answer which best completes the statement. Place the letter in the blank at the beginning of the statement.

_C_ 20. The reduction in yield per acre when corn planting is delayed two weeks beyond the ideal planting date is approximately
A. 2 bushels per acre.
B. 4 bushels per acre.
C. 7 bushels per acre.
D. 10 bushels per acre.

_B_ 21. The earliest date that corn may be safely planted is determined primarily by
A. soil moisture.
B. soil temperature.
C. the length of day.
D. farm work load.

_B_ 22. The soil temperature is best for planting when it reaches
A. 54°.
B. 60°.
C. 75°.
D. 81°.

_A._ 23. Early planting
A. provides a longer growing season.
B. assures a top yield.
C. assures spring moisture for germination.
D. results in more stalk growth.

_B_ 24. The length of maturity of most field corn is
A. 60-90 days.
B. 90-120 days.
C. 110-120 days.
D. 120-140 days.

A 25. A short growing season tends to
A. reduce yield.
B. have no effect on yield.
C. results in more leaf and stalk growth.
D. lowers corn moisture at harvest.

C 26. Corn should be planted
A. as deep as possible to get roots down to water (about 3-4 inches).
B. as shallow as possible to get seed in warm soil (about ½-1 inch).
C. as deep enough for moisture, yet shallow enough to be in the upper strata of warm soil (1½ to 3 inches).
D. as shallow as possible to avoid insect damage (½-1 inch).

A 27. In early spring, the top two inches of soil is usually
A. warmer after a series of sunny days.
B. the same temperature on sunny days as on cloudy days.
C. cooler than subsurface soil.
D. cooled by the higher moisture level.

A 28. Early planting of corn is favored by all of these factors except
A. a fine seedbed.
B. light, sandy soils.
C. good drainage.
D. good crumb structure.

A 29. Planting more than three inches deep
A. may kill the sprout because it is too difficult to reach the surface.
B. may place the seed in too much moisture for germination.
C. place the seed too far from the fertilizer.
D. results in greatly increased supply of phosphorus for plant.

A 30. Planting too shallow is harmful because
A. the seedling may lack moisture for germination.
B. the plant will suffer from draught in July.
C. moles may damage the grain.
D. late cold spells may stop germination.

C 31. Too rapid a planter speed may be harmful because
A. too many seeds will be dropped.
B. too few seeds will be dropped.
C. an uneven stand may result.
D. many seeds will be cracked.

B 32. According to research the best corn planter speed is
A. 1-3 MPH.
B. 3-5 MPH.
C. 5-7 MPH.
D. 7-8 MPH.

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D 33. Recent studies show the best planting rate for fertile well drained soils is
A. 14,000 - 16,000.
B. 16,000 - 18,000.
C. 20,000 - 22,000.
D. 25,000 - 30,000.

A 34. A good indication that plant population is about right is
A. ears weighing 1/2 lb. each.
B. a rapid plant growth.
C. bushel yield of 100 per acre.
D. ears that weigh 1¼ lb. each.

A 35. With heavier plant population should go
A. a high fertility level.
B. a smaller type corn plant.
C. an early maturing hybrid.
D. a mid-season hybrid strain.

B 36. A good ear size to strive for is
A. .25 to .50 # ear.
B. .50 to .75 # ear.
C. .75 to 1.00 # ear.
D. 1.00 to 1.50 # ear.

A 37. The best time to get the planter out and check it for workability and accuracy is
A. 2 weeks before planting is started.
B. the day before planting.
C. after planting is started when troubles are best seen.
D. never with the newer model planters.

A 38. A good way to check depth and spacing of planting is
A. dig up a strip of each row after several rounds are made.
B. make a careful check when corn comes up.
C. check carefully when making yield checks.
D. try the planter in the barn lot before going to the field.

A 39. Planters should be cleaned of corn and fertilizer
A. immediately after finishing.
B. during winter check up.
C. before the next planting season.
D. just before going into the field.

Section III. Matching

Place the letter that best describes the term in front of the number at the left.

E	40.	Time from planting to maturity	A. Root branch
D	41.	Certified hybrid designation for maturity	B. Node
B	42.	Joint	C. Plant Population
C	43.	The number of plants	D. M,K,W,C,L
			E. Maturity period

Section IV. Complete the following mathematical problems. Show the formula and then your work under the problem.

44. A corn planter is set for 42" rows and drills the seeds at 6" intervals in the row. How many kernels are planted per acre? (one acre contains 43,560 square feet)

Answer 24,892

45. 10-10-10 fertilizer is selling for $132.00 per ton. What is the cost of plant food nutrients per pound in this fertilizer?

Answer 22 cents

Section V. Interpretation of Data

Place an (A) in front of each statement that is true and can be proven by the data below. Place an (O) in front of each statement that may or may not be true but can not be answered sufficiently from the data below. Place and (I) in front of each answer that is incorrect according to the data below.

Semi-Granulated Fertilizer

Analysis	Retail cost/ton	Lbs. plant food/ton	Cost/lb. plant food
12-12-12	$75.00	720	10.4¢
10-10-10	$63.15	600	10.5¢
3-12-12	$50.00	540	9.3¢
5-20-20	$67.75	900	7.5¢
4-16-16	$61.70	720	8.6¢

A 46. The lowest cost per lb. of plant food is provided by 5-20-20.

I 47. The greater the amount of plant food per ton, the less is the cost per lb. of plant food.

I 48. For a specified amount of nutrients, 10-10-10 is the least weight to handle.

I 49. A ton of 12-12-12 will provide more plant nutrients than a ton of 4-16-16.

O 50. The best corn fertilizer is 5-20-20.

ACTIVITY SHEET

004-003-002

Developing Written Tests

Directions: Please complete the following:

1. Please indicate whether the following items are recognition items (R) or constructed response (CR) items

_____ A. Multiple choice
_____ B. Completion items
_____ C. Short Answer
_____ D. Matching
_____ E. True-false
_____ F. Definitions

(Circle the correct answer)

T F 2. Multiple choice test questions have a low guessing error.

T F 3. It is difficult to write good multiple choice test items.

T F 4. It is difficult to develop matching test items.

T F 5. Matching test items are restricted to the measurement of factual information based on memorization.

T F 6. True-false items discourage guessing.

T F 7. Short answer items are difficult to score objectively.

T F 8. Completion items are difficult to construct.

T F 9. The roots or choices of a multiple choice item should be longer than the stem.

T F 10. The stem can be an incomplete sentence.

NOTE: Please check your answers with the answer key on the next page.

ANSWER KEY

For Activity Sheet 004-003-002

Developing Written Tests

Directions: Check your answers with the answers below. If you missed any, please review Information Sheet 004-003-001.

1. R A.
   CR B.
   CR C.
   R D.
   R E.
   CR F.

   T 2.
   T 3.
   F 4.
   T 5.
   F 6.
   T 7.
   F 8.
   F 9.
   T 10.

DEPT.	PROG	TASK	TPO	MPO
	PTT	004	004	003

MICRO - PERFORMANCE OBJECTIVE #4

Construct Written Tests for the Affective Domain

LEARNING STEPS

1. Read Resource #1 for information on developing written tests for the affective domain.
2. Complete Resource #2 to check your understanding of tests for the affective domain.
3. Go to next MPO.

RESOURCES

1. Information Sheet 004-004-001, "Instruments to Evaluate the Affective Domain," in this guide, pages 57-61.
2. Activity Sheet 004-004-002, "Instruments to Evaluate the Affective Domain," in this guide, pages 62-63.
3. MPO #5 in this guide, page 64.

DEPT.	PROG	TASK	TPO	MPO
	P.T.T.	004	004	004

INFORMATION SHEET

004-004-001

Instruments to Evaluate the Affective Domain (Attitudes)

The affective domain of learning deals with student attitudes, beliefs, feelings, and values. In vocational programs, instructors have to include training which will help students to develop a set of attitudes and work values to become competent workers.

Among the various devices that are used to assess student attitudes and values in a program are:

1. Observation Checklists: Used to observe and record students' work habits while they are at school or on the job. A checklist could include items such as whether the students arrive on time to class or work, how prepared they are in class, how much they participate in class activities and discussions, how well they work with others, and other behaviors.
2. Rating Scales: Used to assess general work habits and attitudes in the classroom or on the job, or to assess student performance of a task that would require good attitudes.
3. Interviews: Used to assess student attitudes. The interviews may be either formal or informal and are held between the instructor and student. With the formal or structured interview, questions are prepared ahead of time. The informal interview is less structured and is simply a conversation between the instructor and the student.
4. Problem-Solving or Case Study: Used to determine if a student has achieved an affective performance objective. For instance, if an objective involves maintaining an orderly and safe work area, the instructor could present a problem or situation to the students such as: "Suppose you are working in the greenhouse and you notice that a pesticide sprayer is sitting on the floor and has not been cleaned or put in its proper location. What would you do about the situation?" The student might mention that he or she did not leave the sprayer there, did not do the spraying, and is, therefore, not responsible for taking care of it or bringing the sprayer to someone's attention. The instructor then might question whether the student values a safe and orderly work area.

5. Oral Exam: Used to ask students to evaluate their progress in the laboratory or on the job and to give the instructor insight into how the student feels about the experience. The instructor would want to make sure that the student has been in the situation long enough to realize some progress.
6. Questionnaires and Inventories: Used for numerous purposes. The respondent is requested to either check an appropriate response or construct a response.
7. Instructor's Annotative and Anecdotal Records: Records maintained by the instructor on each student which could include the jobs that each student does, how well the student works, student attendance, attitudes while in the program, safety precautions observed, etc.

An example checklist is contained on the next page. The checklist could be used by an instructor to evaluate the general work habits of students over a term, semester, or year. One or two students could be evaluated each day. After the students are observed and evaluated, the checklist should be reviewed with them during a planned conference.

On page 61 is an example sheet for recording how well the student is doing on selected affective factors.

Checklist on General Work Habits

Directions: Observe each student during the semester in the laboratory or shop setting and record your observations on the following checklist. You may complete one or two checklists each day during the semester. After you complete the checklist, discuss it with the student.

Student's Name _____ Period or Section _____ Date _____

Rater's Name _____

	Rating	
1. Work Habits	Acceptable	Unacceptable
A. Follows directions		
B. Works effectively		
C. Works conscientiously		
2. Safety Habits		
A. Works safely		
B. Wears safety glasses		
C. Meets required safety standards		
D. Is careful		
3. Work Area		
A. Is neat		
B. Is thorough		
4. Responsibility		
A. Is reliable		
B. Is conscientious		
5. Motivation		
6. Initiative		
A. Does assigned work		
B. Seeks extra work		
7. Peer Relations		
A. Generally cooperative		
B. Works well with others		
Instructor's Comments:		

Reviewed with student on _____
(Date)

ATTESTS TO REVIEW

_____ _____ _____
Instructor Signature Student Signature Date of Review

DEPT.	PROG	TASK	TPO	MPO
	P.T.T.	004	004	004

Affective Performance Objective Format

Given _____

_____

(Specify setting where performance is to be demonstrated and any other conditions that may exist.)

The _____ Student Will:
(Specify Program)

_____
Write in the Affective Performance Expected)

This attitude (affective performance) will be judged "satisfactory" if the following criteria (indicators) are observed/measured by the evaluator:

	The Student	
Does		Doesn't
1. _____		1. _____
2. _____		2. _____
3. _____		3. _____
4. _____		4. _____
5. _____		5. _____
6. _____		6. _____
7. _____		7. _____
8. _____		8. _____
Etc.		Etc.

ACTIVITY SHEET

004-004-002

Instruments to Evaluate the Affective Domain

Directions: Please complete the following.

Matching: Place the letter of the answer on the blank lines.

_____ 1. Used to observe and record students' work habits.	A. Rating scales
_____ 2. Used to assess general work habits and attitudes.	B. Interviews
_____ 3. Used to assess student attitudes using questions prepared ahead of time.	C. Observation checklists
_____ 4. Used to determine if a student has achieved an affective performance objective.	D. Oral exam
_____ 5. Used to ask students to evaluate their progress.	E. Annotative records
_____ 6. Records maintained by the instructor on each student.	F. Written exams
	G. Problem solving or case study

NOTE: Please check your answers with the answer key on the next page.

ANSWER KEY

For Activity Sheet 004-004-002

Instruments to Evaluate the Affective Domain

Directions: Check your answers with those given below. If you miss any, please review Information Sheet 004-004-001.

C 1.

A 2.

B 3.

G 4.

D 5.

E 6.

DEPT.	PROG	TASK	TPO	MPO
	P.T.T.	004	004	004

MICRO - PERFORMANCE OBJECTIVE #5

Construct Performance and Written Evaluation Instruments

LEARNING STEPS

1. When you feel you know how to construct performance and written evaluation instruments, take the written criterion exam.
2. Practice constructing performance and written evaluation instruments while reviewing the resources.
3. When you feel you can construct performance and written evaluation instruments without resources or assistance, perform for evaluation.

RESOURCES

1. Written Criterion Exam: Task 004, pages 65-68.
2. All resources in this guide.
3. Product Checklist for performance evaluation instruments: Task 004, pages 69-72. Product Checklist for written evaluation instruments: Task 004, pages 73-77.

DEPT.	PROG	TASK	TPO	MPO
	PTT	004	004	005

PROGRAM Professional Teacher Training

CRITERION EXAM

TASK # 004

DIRECTIONS:

THE PURPOSE OF THIS EXAM IS TO DETERMINE WHETHER OR NOT YOU HAVE UNDERSTOOD THE INFORMATION ON constructing performance and written evaluation instruments.

Each of the questions or incomplete statements below is followed by several words, phrases, or a series of numbers. Choose the one which best answers the question or completes the statement correctly. Place the letter associated with that choice (A, B, C or D) in the numbered blank space on your ANSWER SHEET. DO NOT WRITE ON THIS TEST! To master this exam you must answer 10 **out of** 10 **items correctly, (** 100 **%).**

DEPT.	PROG	TASK	TPO	MPO
	P.T.T.	004	004	005

Written Exam 004

1. Evaluation instruments are a critical part of a competency-based personalized learning system because

   A. the instructor may be evaluated on the basis of the number of students who successfully master the tasks.
   B. employers want to know the scores students receive on evaluation instruments.
   C. if the evaluation instruments are not sound,the student may receive or be denied credit for mastery unjustly.
   D. the students are in competition with each other for grades.

2. In a competency-based personalized learning system, which of the following is a purpose of testing?

   A. Determine student mastery of a task.
   B. Provide feedback on student performance for both the student and the instructor.
   C. Provide a basis for identifying a student's areas of strength and weakness.
   D. All of the above.

3. An example of a formal assessment instrument is

   A. a written criterion exam.
   B. an activity sheet.
   C. a set of study questions.
   D. an oral quiz.

4. The probability that a student will learn and retain new material is increased by

   A. getting a high grade on the exam.
   B. competing with other students for grades.
   C. the prospect of higher wages when becoming employed.
   D. frequent opportunities for review and receiving immediate feedback.

5. An informal assessment instrument which is time consuming but which allows the instructor to give immediate feedback is

   A. the written criterion exam.
   B. an oral quiz.
   C. an activity sheet.
   D. a set of study questions.

6. The stem of a multiple choice question

   A. can be an incomplete sentence, phrase, or a question.
   B. should be followed by a colon.
   C. should be followed by a question mark.
   D. should be a complete sentence.

7. The roots or choices of multiple choice questions should

   A. be approximately equal in length.
   B. usually begin with capital letters.
   C. not contain a period at the end.
   D. all of the above.

8. A test item written at the comprehension level is designed to determine if the student can

   A. apply knowledge in new situations.
   B. use the knowledge in specified situations.
   C. repeat facts which have been taught.
   D. pass a written criterion exam.

9. Performance evaluation instruments are used to determine whether or not the student understands

   A. the "knowing" aspects of the task.
   B. both "doing" and "knowing" aspects of the task.
   C. the "doing" aspects of the task.
   D. the terminal performance objective.

10. When writing a performance evaluation instrument, which of the following is included with the "directions to the student" section?

    A. Specific expectations of performance
    B. Score needed for mastery
    C. Time restrictions
    D. All of the above

ANSWER KEY

For Written Exam 004

1. C
2. D
3. A
4. D
5. B
6. A
7. D
8. B
9. C
10. D

DEPT.	PROG	TASK	TPO	MPO
	P.T.T.	004	004	005

PROGRAM: Professional Teacher Training

TASK: Construct Performance and Written Evaluation Instruments

TASK # 004

PERFORMANCE/PRODUCT CHECKLIST

STUDENT'S NAME _____ **EVALUATION SITE** _____

EVALUATOR'S NAME _____ **PERFORMANCE ATTEMPT** 1 2 3 4

DATE OF ATTEMPT ____ ____ ____ ____

TERMINAL PERFORMANCE OBJECTIVE:

GIVEN: Tasks for your occupational program

YOU WILL: construct product and performance evaluation instruments

DIRECTIONS TO THE STUDENT:

BEFORE ATTEMPTING THIS TASK FOR MASTERY, CAREFULLY REVIEW THIS CHECKLIST. YOU WILL BE EVALUATED ON THE BASIS OF THIS CHECKLIST. WHEN YOU FEEL YOU ARE READY FOR EVALUATION CONTACT YOUR INSTRUCTOR. YOU MUST COMPLETE YOUR PERFORMANCE WITHIN _____ MINUTES AND MUST SCORE AT LEAST 27/28 OUT OF 31/32 POINTS OR 87 % FOR MASTERY. CRITICAL ITEMS ARE MARKED WITH AN ASTERISK (*). THESE ITEMS MUST BE SATISFACTORILY COMPLETED.

DIRECTIONS TO THE EVALUATOR:

THE STUDENT WILL CONTACT YOU WHEN READY FOR EVALUATION. THE STUDENT MUST COMPLETE THE PERFORMANCE WITHIN _____ MINUTES AND MUST SCORE 27/28 OUT OF 31/32 POINTS OR 87 % AND ALL ITEMS MARKED WITH AN ASTERISK (*) MUST BE SATISFACTORILY COMPLETED.

DEPT.	PROG	TASK	TPO	MPO
	PTT	004	004	005

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	General Information		
*	1. Is the name of the program listed?	1	
*	2. Is the task title listed?	1	
*	3. Is the task number listed?	1	
*	4. Is the TPO listed?	1	
	Directions to Student or Trainee		
	5. Do the directions include:		
*	A. What is to be done?	1	
*	B. How it is to be done?	1	
*	C. The conditions for performance?	1	
*	D. The standards, i.e., how performance will be graded?	1	
	E. How to ask questions or make comments during the test?	1	
*	F. The time limits for completion.	1	
	Directions to the Evaluator		
	6. Do the directions to the evaluator include:		
*	A. The exact conditions under which the performance test is to be administered?	1	
*	B. The exact procedures to be used?	1	
*	C. A list of tools, aids, equipment, and materials which are to be used?	1	
	D. When, how, or if help can be provided the student or trainee?	1	
*	E. Scoring procedures?	1	
*	F. The time limits for each part of the performance test?	1	
	G. The system of rotation if different parts of the task are to be performed at more than one testing station?	1	
	TOTAL POINTS EARNED =		

POINTS NEEDED FOR MASTERY = 14
TOTAL POINTS POSSIBLE = 17

DEPT.	PROG	TASK	TPO	MPO
	PTT	004	004	005

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	PRODUCT CHECKLIST		
*	1. Is the checklist appropriate for product evaluation?	1	
*	2. Are the desirable characteristics of the completed product listed?	1	
*	3. Is each item independent of the other items?	1	
	4. Does each item begin with a present tense verb?	1	
*	5. Does the checklist contain only the critical items which can discriminate between competence and non-competence?	1	
*	6. Does the checklist contain job-entry employee standards or criteria?	1	
*	7. Is each item specific?	1	
*	8. Is the checklist based upon the TPO?	1	
*	9. Are the critical items identified?	1	
*	10. Is the rating system appropriate for the checklist?	1	
	11. Are evaluator checkpoints included if needed?	1	
*	12. Is the score needed for mastery listed?	1	
*	13. Are point values assigned to each item?	1	
*	14. Are the items written for objective evaluation?	1	
	TOTAL POINTS EARNED =		

POINTS NEEDED FOR MASTERY = 13
TOTAL POINTS POSSIBLE = 14

DEPT.	PROG	TASK	TPO	MPO
	PTT	004	004	005

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	PERFORMANCE CHECKLIST		
*	1. Is the checklist appropriate for performance evaluation?	1	
*	2. Is the checklist based upon the TPO?	1	
*	3. Does the checklist contain all critical procedural steps?	1	
*	4. Are the steps listed in correct procedural order?	1	
*	5. Is each step independent of all other steps?	1	
	6. Does each step begin with a past tense verb?	1	
*	7. Is each step readily observable and measurable?	1	
*	8. Are the steps written for objective evaluation?	1	
*	9. Does each step include only one performance?	1	
*	10. Is each step stated simply and clearly?	1	
*	11. Are the critical steps identified?	1	
*	12. Are the criteria specified for each step?	1	
*	13. Are point values assigned to each step?	1	
*	14. Is the score needed for mastery listed?	1	
*	15. Is the rating system appropriate for the checklist?	1	
		TOTAL POINTS EARNED =	

POINTS NEEDED FOR MASTERY = 14
TOTAL POINTS POSSIBLE = 15

DEPT.	PROG	TASK	TPO	MPO
	PTT	004	004	005

PROGRAM: Professional Teacher Training

TASK: Construct Performance and Written Evaluation Instruments

TASK # 004

PERFORMANCE/PRODUCT CHECKLIST

STUDENT'S NAME _____ **EVALUATION SITE** _____

EVALUATOR'S NAME _____ **PERFORMANCE ATTEMPT** 1 2 3 4

DATE OF ATTEMPT ____ ____ ____ ____

TERMINAL PERFORMANCE OBJECTIVE:

GIVEN: Tasks for your occupational program

YOU WILL: construct written evaluation instruments

DIRECTIONS TO THE STUDENT:

BEFORE ATTEMPTING THIS TASK FOR MASTERY, CAREFULLY REVIEW THIS CHECKLIST. YOU WILL BE EVALUATED ON THE BASIS OF THIS CHECKLIST. WHEN YOU FEEL YOU ARE READY FOR EVALUATION CONTACT YOUR INSTRUCTOR. YOU MUST COMPLETE YOUR PERFORMANCE WITHIN _____ MINUTES AND MUST SCORE AT LEAST _____ OUT OF _____ POINTS OR 100 % FOR MASTERY. CRITICAL ITEMS ARE MARKED WITH AN ASTERISK (*). THESE ITEMS MUST BE SATISFACTORILY COMPLETED.

DIRECTIONS TO THE EVALUATOR:

THE STUDENT WILL CONTACT YOU WHEN READY FOR EVALUATION. THE STUDENT MUST COMPLETE THE PERFORMANCE WITHIN _____ MINUTES AND MUST SCORE _____ OUT OF _____ POINTS OR 100 % AND ALL ITEMS MARKED WITH AN ASTERISK (*) MUST BE SATISFACTORILY COMPLETED.

DEPT.	PROG	TASK	TPO	MPO
	PTT	004	004	005

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	Evaluation of Criterion-Referenced Exams		
	General Information		
*	1. Is the program listed?	1	
*	2. Is the task number listed?	1	
*	3. Are the directions for taking the examination clearly stated and complete?	1	
*	4. Is the purpose of the examination stated?	1	
*	5. Are the students informed as to how the examination will be graded?	1	
*	6. Are the time limits stated for answering the exam?	1	
*	7. Is the mastery level stated?	1	
*	8. Are the conditions of performance stated?	1	
*	9. Are the questions based upon the performance objective and the micro-performance objectives of the student learning guide or competency sheet?	1	
*	10. Does the conditions under which the testing is to occur match those of the objective?	1	
*	11. Are there sufficient items on the test to convince you that the objective has been achieved?	1	
*	12. Can the test stand by itself, i.e., does it include all the necessary instructions to the student?	1	
	TOTAL POINTS EARNED =		

POINTS NEEDED FOR MASTERY =
TOTAL POINTS POSSIBLE =

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	Evaluating Cognitive Test Items		
	<u>True-False Items</u>		
*	1. Wrote items without additional qualifiers	1	
*	2. Is the statement short?	1	
*	3. Is the statement confined to one idea?	1	
*	4. Is there a pattern to the answers?		1
*	5. Are the following words avoided: Always, only, never, all, every, no, none, generally, sometimes, usually, often, or frequently?	1	
	<u>Multiple-Choice Items</u>		
*	1. Are all test choices reasonable, practical, and appealing?	1	
*	2. Is there only one correct answer?	1	
*	3. Are most of the words in the stem and not in the roots or choices?	1	
*	4. Are negative expressions avoided in the stem and choices?	1	
*	5. Are all the choices arranged in some logical sequence?	1	
*	6. Are all the choices approximately the same in length?	1	
*	7. Are there three to five choices for each item?	1	
*	8. Are all the choices grammatically consistent with each other and with the stem?	1	
*	9. Is the stem clear and concise and represent a complete thought?	1	
*	10. Are the stem and roots punctuated correctly?	1	
	TOTAL POINTS EARNED =		

POINTS NEEDED FOR MASTERY =
TOTAL POINTS POSSIBLE =

DEPT.	PROG	TASK	TPO	MPO
	PTT	004	004	005

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	Matching Items		
*	1. Do the directions clearly explain how the matching is to be done?	1	
*	2. Are all the items for a matching exercise on the same page?	1	
*	3. Are the shorter responses on the right-hand side?	1	
*	4. Are there no more than 10 items in either column?	1	
*	5. Are the materials homogeneous in a single matching exercise?	1	
*	6. Is there an unequal number of responses and premises?	1	
*	7. Are some items included that are to be used more than once or not at all?	1	
*	8. Are the responses and premises arranged in a logical order?	1	
	Short-Answer Items		
*	1. Did the writer avoid broad, ambiguous questions?	1	
*	2. Does the item specify exactly what the student is to do and in what detail it is to be done?	1	
*	3. Has a model answer been prepared that includes all the points that should be covered and the value of each point?	1	
*	4. Has the importance or unimportance of spelling, handwriting, and grammar been made clear in the directions?	1	
	TOTAL POINTS EARNED =		

POINTS NEEDED FOR MASTERY =
TOTAL POINTS POSSIBLE =

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	Completion Items		
*	1. Is there only one correct answer?	1	
*	2. Are the statements directly from the source?	1	
*	3. Are the blanks in the middle or the end of the items rather than at the beginning?	1	
*	4. Is there enough room to write in the correct response?	1	
*	5. Are unnecessary hints avoided?	1	
*	6. Is the use of too many blanks avoided?	1	
*	7. Is the student informed as to how the answer is to be expressed when working problems?	1	

TOTAL POINTS EARNED =

POINTS NEEDED FOR MASTERY =
TOTAL POINTS POSSIBLE =